



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/412,618

10/06/99

GOTHAIT

H

P-2070-US

TM02/0131

JOHN L WELSH
AQUILINO & WELSH
2341 JEFFERSON DAVIS HWY
SUITE 112
ARLINGTON VA 22202

EXAMINER

BAHTA, K

ART UNIT

PAPER NUMBER

2121

DATE MAILED:

01/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/412,618

Applicant(s)

Gothalt

Examiner

Kldest Bahta

Group Art Unit

2121



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-29 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-29 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2, 3

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2121

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Penn et al.** (US. Patent 5,594,652) in view of **Sanders, Jr. et al.** (US. Patent 5,740,051).

Regarding claims 1-29, **Penn et al.** disclose the method and system for three-dimensional printing of a three-dimensional model the method comprising: at least one printing head (20), having a plurality of nozzles (30), (Fig. 2c); a plurality of dispensers connected to the at least one printing head for dispensing a plurality of interface materials (Fig. 1a); printing head includes a plurality of printing heads and wherein each of the plurality of interface materials are dispensed from a different one of each of the plurality of printing heads, respectively (Fig. 7a-c; column 12, lines 17-27). A first material and second interface material are transparent (column 19, lines 14-24). **Penn et al.** also disclose adjusting the relative proportions of the first and second interface materials, the first and second interface materials having different modules of elasticity (column 16, lines 19-23); the release layer includes a plurality of release blocks, each of the release blocks having a pre-determined modules of elasticity (column 16, lines 18-55); curing means for optionally curing the layers (column 19, lines 33-35); a first and second curing means for curing

Art Unit: 2121

the first and second interface material for a first and second period of time and at a first and second radiation wavelength to obtain a first and second modules of elasticity (Fig. 6a-b); first interface material is a different color than the second interface material (column 4, lines 49-55); positioning apparatus coupled to the control means for selectively positioning the first and second printing heads by commands from the control means (column 8, lines 21-34); the layers are photopolymer material curable by the application of any one of a group including ultra-violet radiation, infra red radiation and E-beam (column 8, lines 33-39).

However, **Penn et al.** fail to disclose that control means connected to the at least one printing head for combining the plurality of interface materials in pre-determined proportions to produce layers having different colors for forming the three-dimensional model. disclose that 95 to 100% of the construction layer includes the first interface material and 0 to 5% of the construction layer includes the second interface material; wherein 0 to 5% of the release layer includes the first interface material and 95 to 100% of the release layer includes the second interface material.

Sanders, Jr. et al. disclose that control means (column 3, lines 23-34) connected to the at least one printing head for combining the plurality of interface materials in pre-determined proportions to produce layers having different colors for forming the three-dimensional model (column 18, lines 59-67); In addition, **Sanders, Jr. et al.** disclose that 95 to 100% of the construction layer includes the first interface material and 0 to 5% of the construction layer includes the second interface material (column 16, lines 34-44), wherein 0 to 5% of the release

Art Unit: 2121

layer includes the first interface material and 95 to 100% of the release layer includes the second interface material (column 16, lines 14-24).

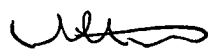
It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify the teaching of **Penn et al.** with the teaching of **Sanders, Jr. et al.** since it processing greatly speeds up the fabrication process, and also reduces the complexity and cost of the system and method of for producing three-dimensional objects.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
4. Any inquiry concerning communication or earlier communication from the examiner should be directed to Kidest Bahta, whose telephone number is (703) 308-6103. The examiner can normally be reached on M- F from 7:30 a.m. to 5:00 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, William Grant, can be reached (703) 308-1108. Additionally, the fax phone for Art Unit 2786 is (703) 308-9051 or 308-9052. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Kidest Bahta
January 25, 2001


WILLIAM GRANT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
1/29/01